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PHOTOGRAPHIC INTELLIGENCE REPORT

NORTH VIETNAM - SOUTH CHINA ROAD STUDY

DECLASS REVIEW by NIMA/DOD

CIA/PIR 75057

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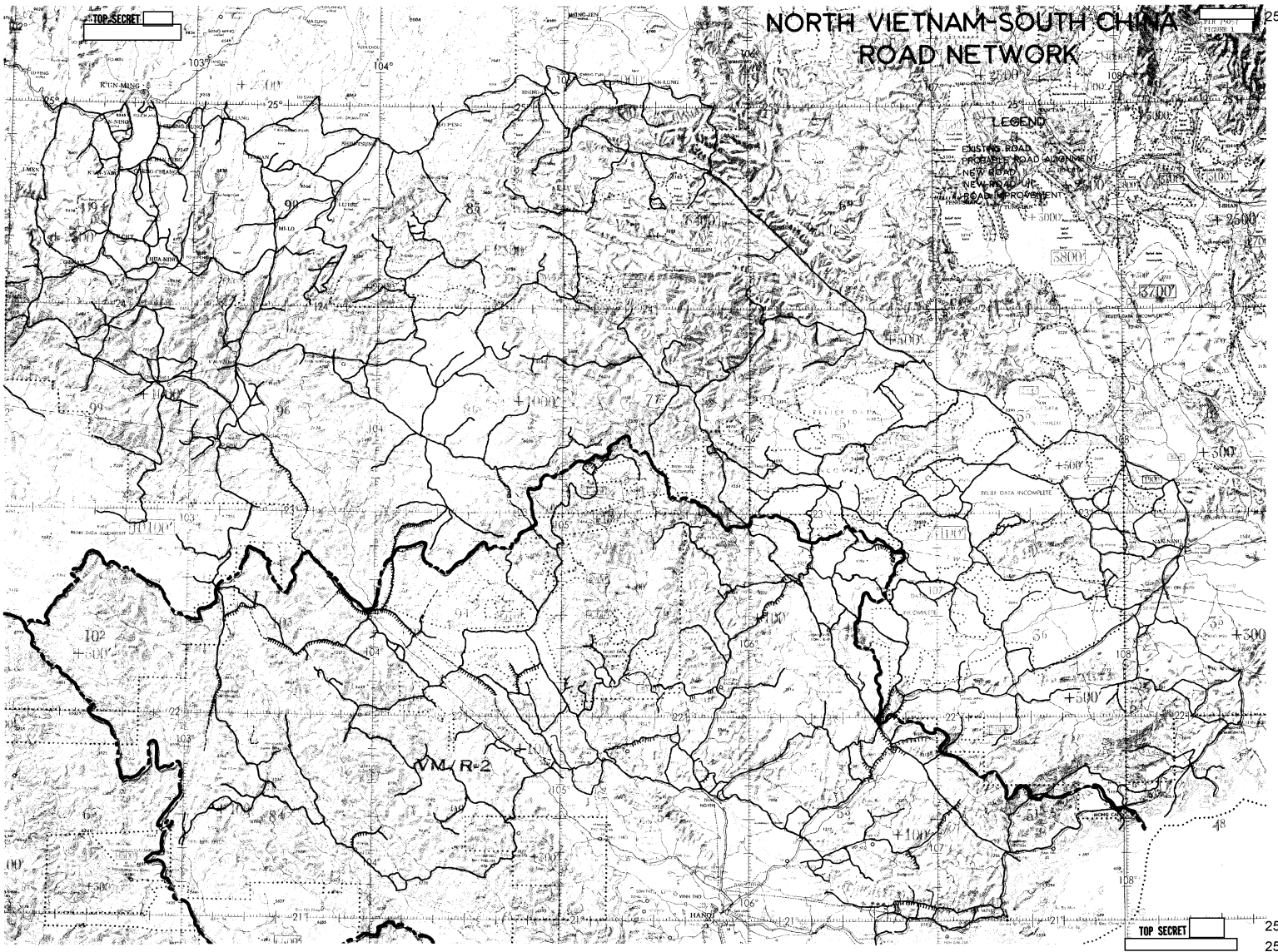
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PIR 75057
PAGE 1

INTRODUCTION

This report provides an update of the status of roads in the South China - North Vietnam border area. The study was made from various [redacted] Trojan Horse, Blue Springs, and [redacted] photographic missions dated from [redacted]

The area of the study is delimited in the following manner (Figure 1):

Northern boundary: The road leading from Kun-ming (25 02N - 102 42E) through Pai-se (23 54N - 106 37E) and Nan-ning (22 48N - 106 18E), to Ch'in-hsien (21 58N - 108 36E).

Eastern boundary: The coastal area from Ch'in-hsien, China to Haiphong, North Vietnam (20 51N - 106 41E) along the Gulf of Tonkin.

Southern boundary: A line from Haiphong to Kep (21 24N - 106 17E); Route 13A from Kep, through Thai Nguyen (21 35N - 105 49E), and Yen Bai (21 42N - 104 53E) to its intersection with Route 6 (21 07N - 104 10E); Route 6 westward to Route 19 at Tuan Giao (21 35N - 103 25E); Route 19 to Dien Bien Phu (21 22N - 103 01E); Dien Bien Phu to the North Vietnam - Laos and Laos - China border to 102 00E.

Western boundary: The Laos - China border at 102 00E north to 25 00N - 102 00E.

The procedure used in this report was to examine recent [redacted] photographic coverage of the entire area (shaded portion, Figure 3b). The results obtained from this coverage were then compared to those obtained from [redacted] photographic coverage from [redacted] and [redacted] over the North Vietnamese portion of the study area, (shaded portion, Figure 3a). Areas which are not shaded but are within the study area on Figure 3 are those for which there was a lack of photographic coverage.

Following the examination of these two phases of [redacted] coverage, various systems of low-level (i.e., [redacted] Trojan Horse, Blue Springs and [redacted] as well as [redacted] satellite photography were used to ascertain classification for roads and levels of construction activity in both China and North Vietnam. The areas covered by this photography were scattered and are indicated by classification and construction annotations on Figures 5 through 26. Four road classifications based on width and surfacing were used:

1. TLI (two lane improved; gravel, stone, or lateritic surface 15' or greater in width).
2. SLI (single lane improved; gravel, stone, or lateritic surface 8' to 15' in width).
3. SLU (single lane unimproved; soft surfaced and 10' or less in width).
4. VT (vehicle tracks).

For the purpose of this report, the North Vietnamese portion of the study area has been divided into three segments: the Northwest, Red River Valley area, and the Northeast (see Figure 2).

NORTHWEST NORTH VIETNAM (NF 48-5, 6, 9, 10)

NEW ROAD CONSTRUCTION

Two new roads are under construction in this area. Route 191, previously observed as a trail, is undergoing active construction from its junction with Route 4 at 21 58N - 103 09E, south of Lai Chau (22 04N - 103 10E), southward toward Dien Bien Phu (21 23N - 103 01E) for a distance of approximately 31 nm. Latest photography shows no corresponding construction activity leading north from Dien Bien Phu.

A new road is under active construction south of Phong Tho (22 31N - 103 21E) for a distance of approximately 8 nm along the proposed alignment of Route 132. This new construction terminates at a point approximately 1 nm west of Soui Tao (22 25N - 103 26E).

ROAD IMPROVEMENT

Route 4 is undergoing extensive improvement in two sectors of the northwest. The first area is an 8 nm segment between Lai Chau and the new road construction activity on Route 191 to the south. Route 4 is also being extensively improved in the mountainous region to the east of Long Pan (22 19N - 103 39E) for a distance of about 13 nm to the town of Sang Ta Van (22 20N - 103 51E), (Photo No. 1*).

The existing portion of Route 132 is undergoing extensive improvement from Long Pan westward for 15 nm.

Route 6 is being improved north of Lai Chau for a distance of about 10 nm. This improvement includes road widening and new bridge construction. An example of North Vietnamese bridge reconstruction efforts in this area as a result of recent U.S. air strikes is illustrated in Photo No. 2.

Route 604 is under construction from its intersection with Route 6 at 22 27N - 103 12E eastward to Phong Tho, a distance of 13 nm.

SUMMARY

Completion of the present construction activity will notably strengthen the area's weak road network and greatly facilitate the movement of goods from Communist China into North Vietnam.

* Photo numbers agree with annotated red numbers on Figures 5 through 26, except for Photos Nos. 1 and 9 which have their own index maps.

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PIR 75057
PAGE 2

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RED RIVER VALLEY AREA (CHINA - NORTH VIETNAM) (NF 48-I, 2, 6, 10)

NEW ROADS AND NEW ROAD CONSTRUCTION

There is a new two lane improved road leading from Lao Cai, North Vietnam (22 30N - 103 58E) northward toward Meng-tzu, China (23 22N - 103 24E). The new road extends along the northeast bank of the Red River for a distance of about 34 nm. At this point, the new road turns northeast and extends for a distance of 8 nm to 23 00N - 103 39E. This segment of the road is under active construction and does not yet appear to be serviceable. North of this point, an existing road is being improved for a distance of 21.5 nm northward to the town of A-san-chai, China (23 16N - 103 27E).

A new road is under construction for a distance of approximately 9 nm along the proposed alignment of Route 408 from 22 30N - 104 16E to 22 37N - 104 21E. In addition, a new road is also being constructed from the intersections of Routes 4 and 408 at 22 23N - 104 14E southeastward to Leng Pho Rang, North Vietnam (22 14N - 104 29E). This road extends for a distance of 16 nm and is in the late stages of construction.

Route 160, paralleling the Red River Valley about 7 nm to the east from Leng Khien, North Vietnam (22 05N - 104 41E) south to Route 13A at 21 45N - 104 58E, is in the late stages of construction. The length of this new road is about 25 nm.

Route 159, on the northeast bank of the Red River, has been extended from its previous serviceable limit at Leng Gat, North Vietnam (21 50N - 104 46E) northward to the vicinity of Trai Hut, North Vietnam (21 58N - 104 35E), a distance of about 14 nm. Just across the river from Trai Hut, a new road is in the early stages of construction for a distance of 8 nm northward to Leng Lau, North Vietnam (22 03N - 104 29E).

ROAD IMPROVEMENT

Route 411 is undergoing improvement from a point 2 nm east of Lao Cai, North Vietnam where it intersects with Route 4 at 22 00N - 104 02E, northward to Lu-ch'ai-ch'ung, China (22 57N - 104 21E), a distance of 40 nm.

Route 412, along the southwest bank of the Red River across from Lao Cai is undergoing improvement between the towns of Chu Bac, North Vietnam (22 28N - 103 59E) and immediately west of Ba Xat, North Vietnam (22 34N - 103 49E), a distance of approximately 12 nm. Beyond this point, the road is being extended for an additional 5 nm to 22 31N - 103 47E.

Route 4 is being improved from a point 2.5 nm east of Lao Cai (22 31N - 104 01E) southeastward to its intersection with Route 408 at 22 23N - 104 14E, a distance of approximately 15 nm.

Route 157 is undergoing improvement from the town of Leng Pho Rang, North Vietnam (22 14N - 104 29E) southeastward to Leng Coc, North Vietnam (22 11N - 104 34E), a distance of 6.5 nm.

An unnumbered route is being improved from a narrow cart path to a road from Route 157 at 22 06N - 104 45E northeastward for a distance of 14 nm, where it intersects with Route 2 at Vinh Tuy (22 16N - 104 54E).

SUMMARY

The Red River Valley area of China and North Vietnam is the area of heaviest road construction activity at the present time.

The major effort appears to be directed toward providing alternate vehicular routes between South China and Hanoi. The North Vietnamese are at present heavily dependent on the rail line that links Hanoi with Kun-ming.

NORTHEAST (NF 48-2, 3, 6, 7, 8, 11, 12)

NEW ROADS AND NEW ROAD CONSTRUCTION

Route 2 has been extended from Ha Giang, North Vietnam (22 49N - 104 59E) 18 nm northwestward to a point near Ma-li-po, China (23 07N - 104 43E). An existing narrow Chinese road was improved and, in part, by-passed.

A new bridge and a short road segment have been constructed between Route 3 at 22 41N - 106 15E and an unnumbered route about 2 nm northwest of Cao Bang (22 40N - 106 15E).

Route 164 has undergone some new road construction as well as improvements between its intersection with Route 198 at 22 12N - 105 19E and Bac Kan, North Vietnam (22 08N - 105 50E). In addition, a new road has been constructed in a southerly direction from Route 164 at 22 06N - 105 17E for a distance of 5 nm. A lack of photographic coverage precludes the determination of the southern limit of this new road.

ROAD IMPROVEMENT

Approximately 12 nm of Route 3A between Cao Bang, North Vietnam and Route 3 at 22 23N - 105 54E has been improved in the past two years.

Routes 3, 173, and 172, located north and northeast of Cao Bang have all undergone limited improvement in recent months.

Route 1A is undergoing major road improvement construction from 21 31N - 106 37E northeast to Leng Son, North Vietnam (21 51N - 104 46E), a distance of 15 nm. In addition, a new 1 nm long by-pass road has been constructed at Leng Son along the north bank of the Song Mo Pia (River).

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PIR 75057
PAGE 3

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An 8 km segment of Route 4, from Lang Son to Dong Dang, North Vietnam (21 57N - 106 42E), is undergoing rather extensive road improvement. In addition, a 5 km segment of this road southeast of Lang Son has undergone rather extensive improvement.

Route 403, extending east from Lang Son for a distance of 12 km, has undergone improvement in recent months. Presently, this road terminates at 21 54N - 106 59E. A probable construction camp is located along this road approximately 2 km from Lang Son (Photo No. 10).

The road leading from Dong Dang northward across the Chinese border to Ping-hsiang, China (22 06N - 106 45E) is undergoing extensive improvement and realignment. Additional road construction and improvement was noted in the Ping-hsiang area (Figure 19). Numerous pieces of construction equipment and several work camps were observed along the road between Dong Dang and Ping-hsiang.

SUMMARY

Road improvement activity observed within the study area appears to be concentrated in the northeast. Most of this improvement involves widening roads and bridges to two lanes as well as reducing some grades. The improved road leading from Ping-hsiang, China into North Vietnam will greatly supplement the existing rail line in the flow of goods between the two countries.

SUMMARY

The major effort during the past two years has been to improve existing highway connections with Communist China. This has been, and is being accomplished by the construction of new roads and the improvement of existing roads between the two countries. In addition, there has been some improvement of the lateral road network in the North Vietnamese portion of the study area. The distribution and extent of impact of this activity on the 3 North Vietnamese areas previously discussed within the study area is shown on Table 1.

It is evident that the greatest percentage of construction activity has occurred, and is occurring in the Red River Valley. Percentage-wise, it is four times greater than either the northwest or northeast. However, the greatest total mileage of construction activity has taken place in the northeast, primarily in terms of road improvement. About one-fourth of roads in the North Vietnamese part of the study have been affected by some sort of construction activity within the reporting period.

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PIR 75057
PAGE 4

NEW AND IMPROVED ROADS AND ROADS UNDER CONSTRUCTION IN
TERMS OF MILES AND PERCENTAGE RELATIVE TO THE SYSTEM MILEAGE

AREA	TOTAL ROAD SYSTEM	NEW ROADS AND NEW ROADS U/C	IMPROVED AND ROADS UNDER IMPROVEMENT	TOTAL NEW AND IMPROVED ROADS
Northwest	658 (100.0%)	22 (3.3%)	61 (9.1%)	83 (12.4%)
Red River Valley	433 (100.0%)	91 (21.0%)	80 (18.5%)	171 (39.5%)
Northeast	1351 (100.0%)	79 (5.8%)	198 (14.6%)	277 (20.4%)
Total NVN Study Area	2442 (100.0%)	192 (7.9%)	339 (13.8%)	531 (21.7%)

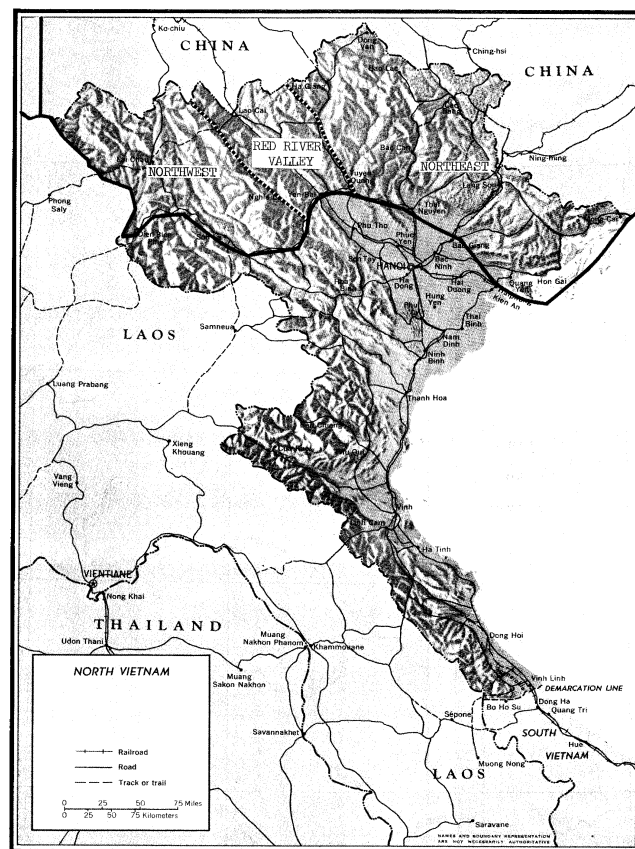


FIGURE 2

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FIGURE 3

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SATELLITE PHOTOGRAPHIC COVERAGE INDEX

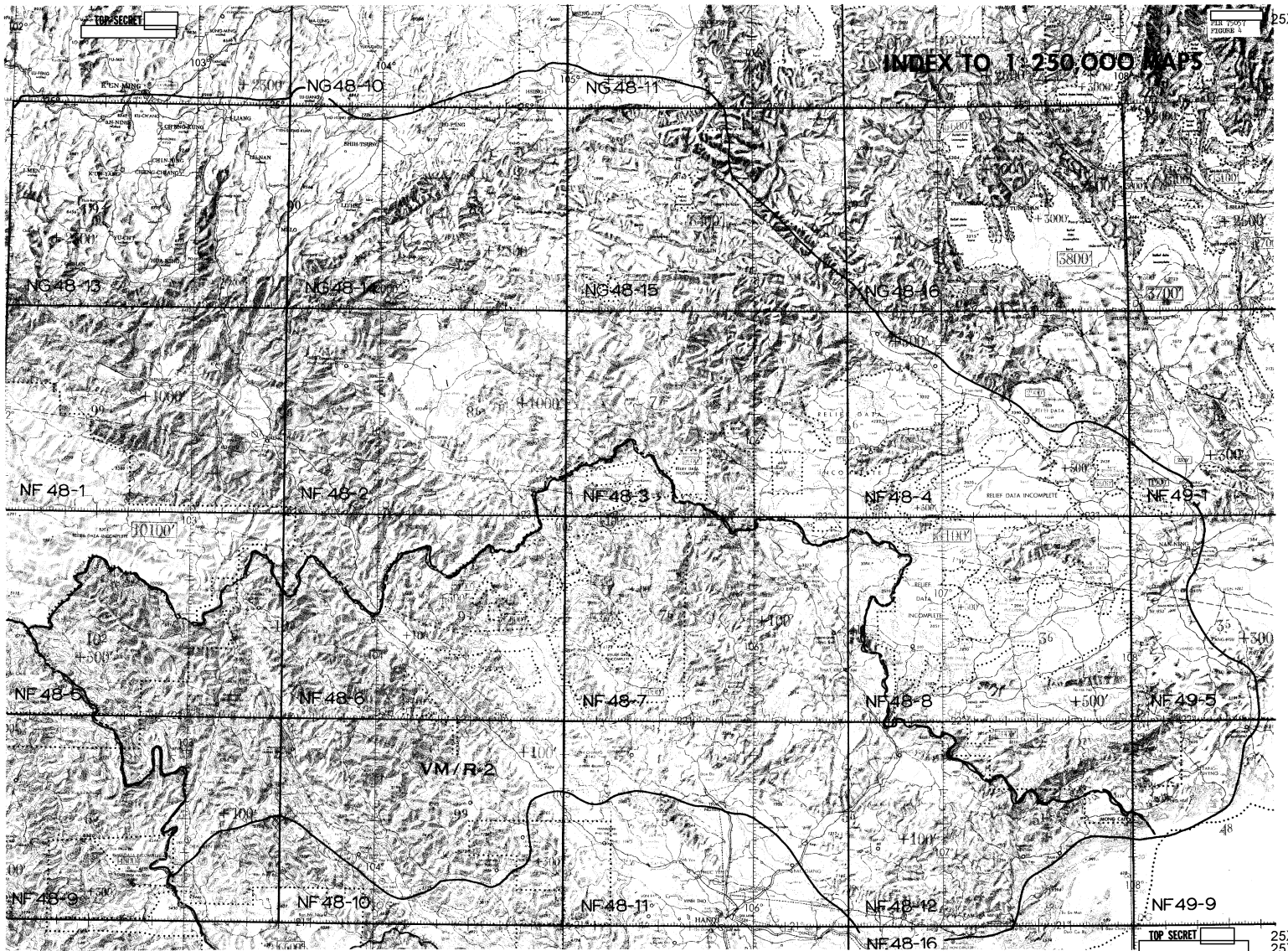
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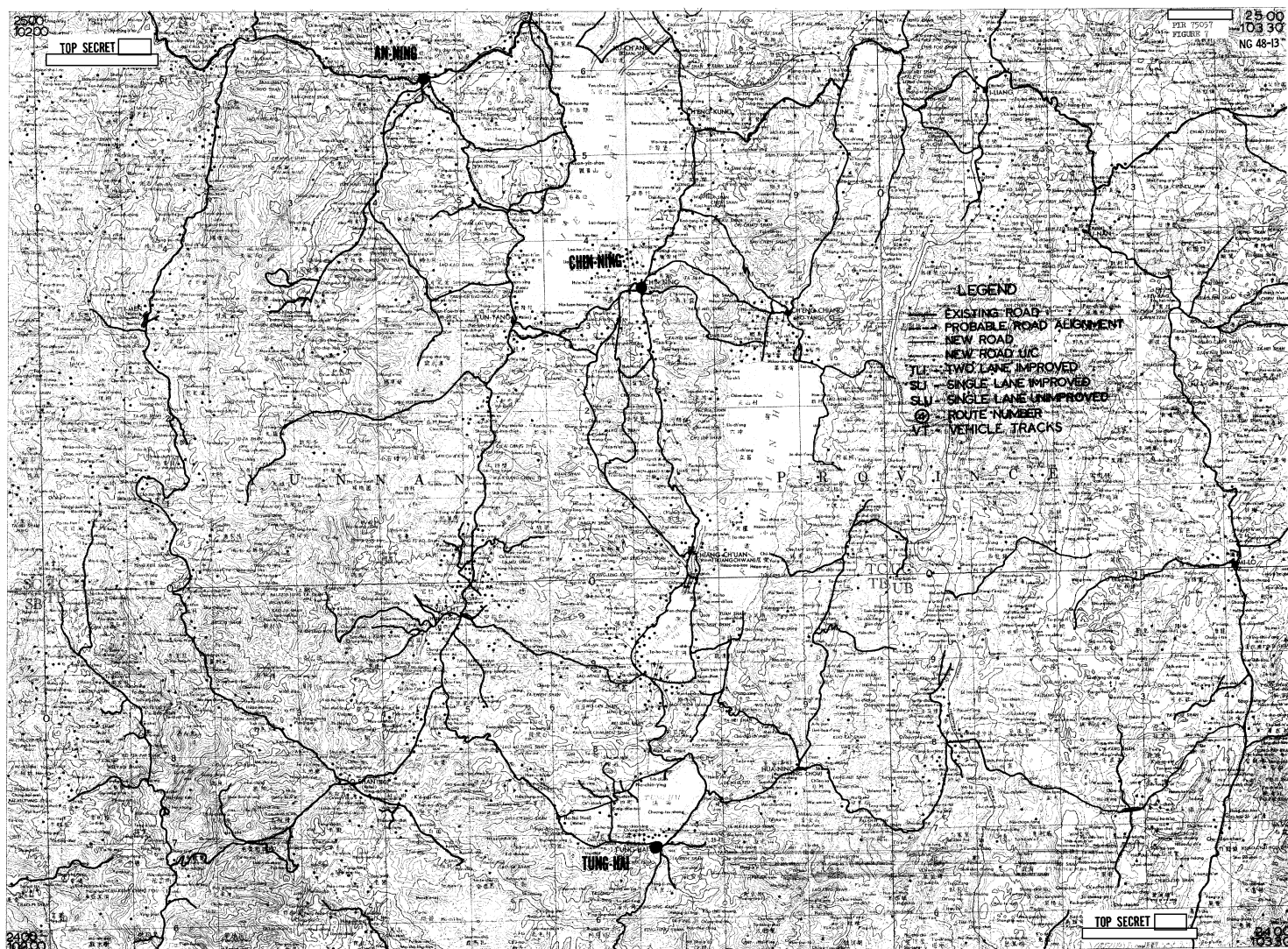
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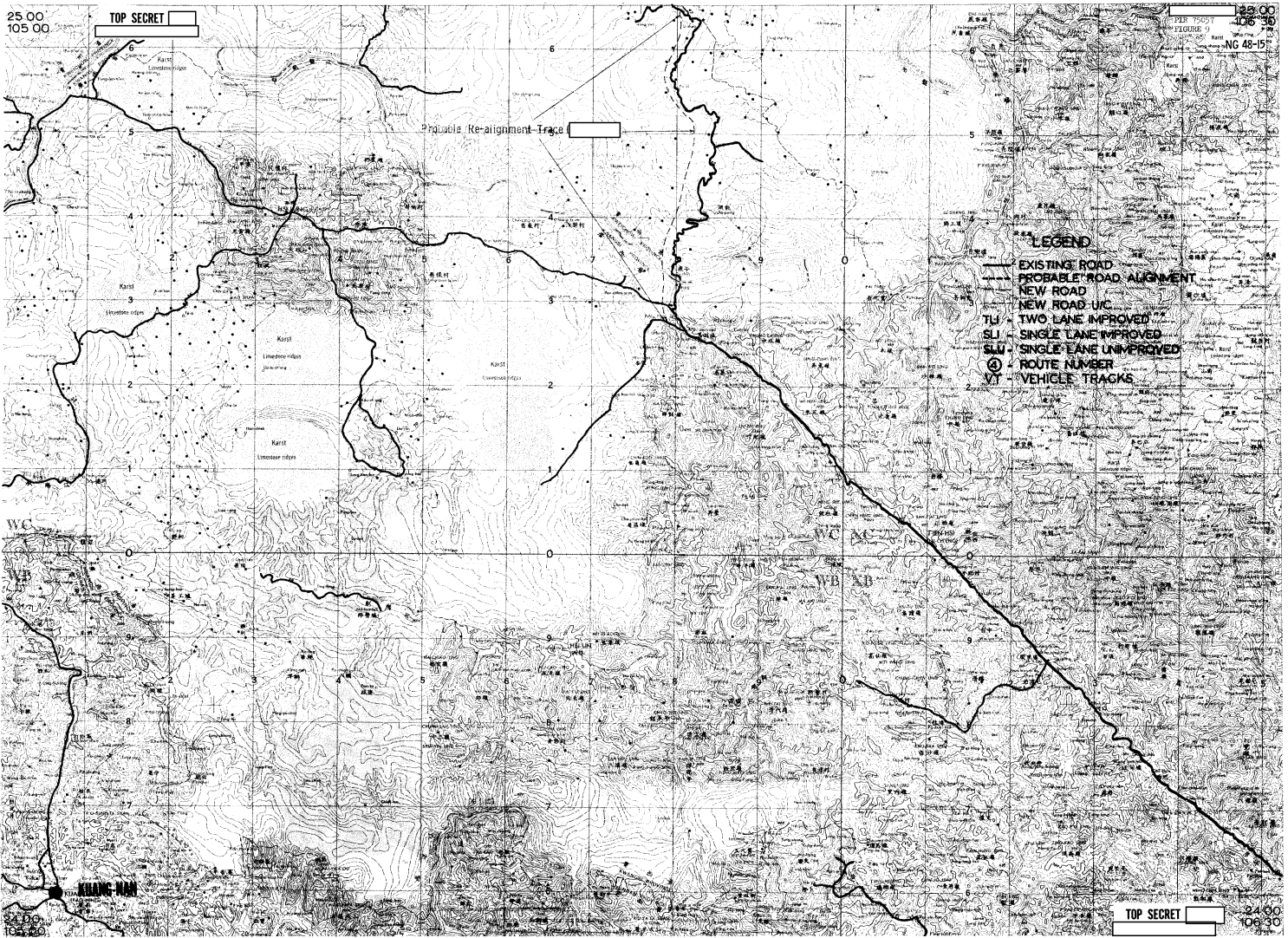


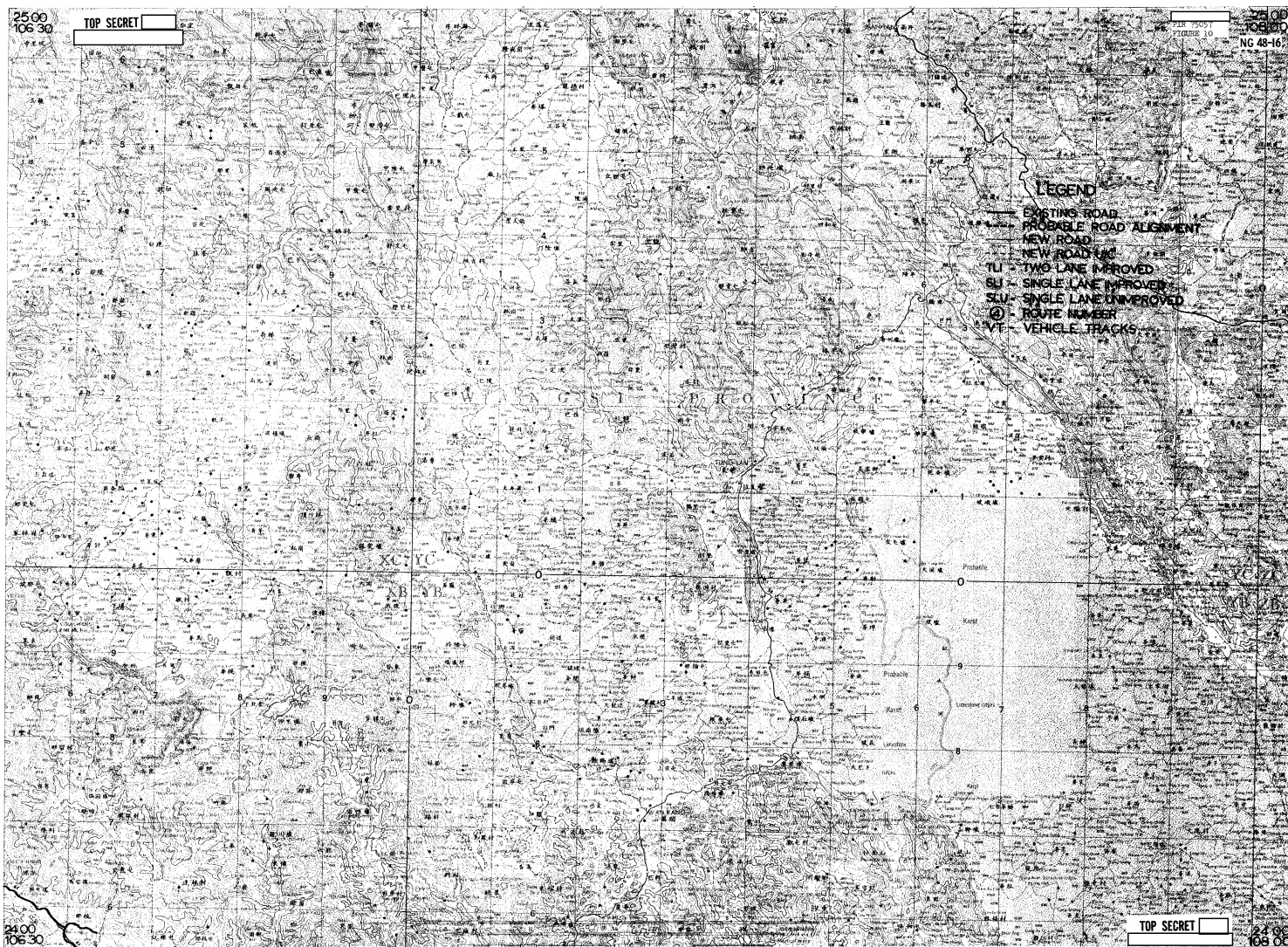
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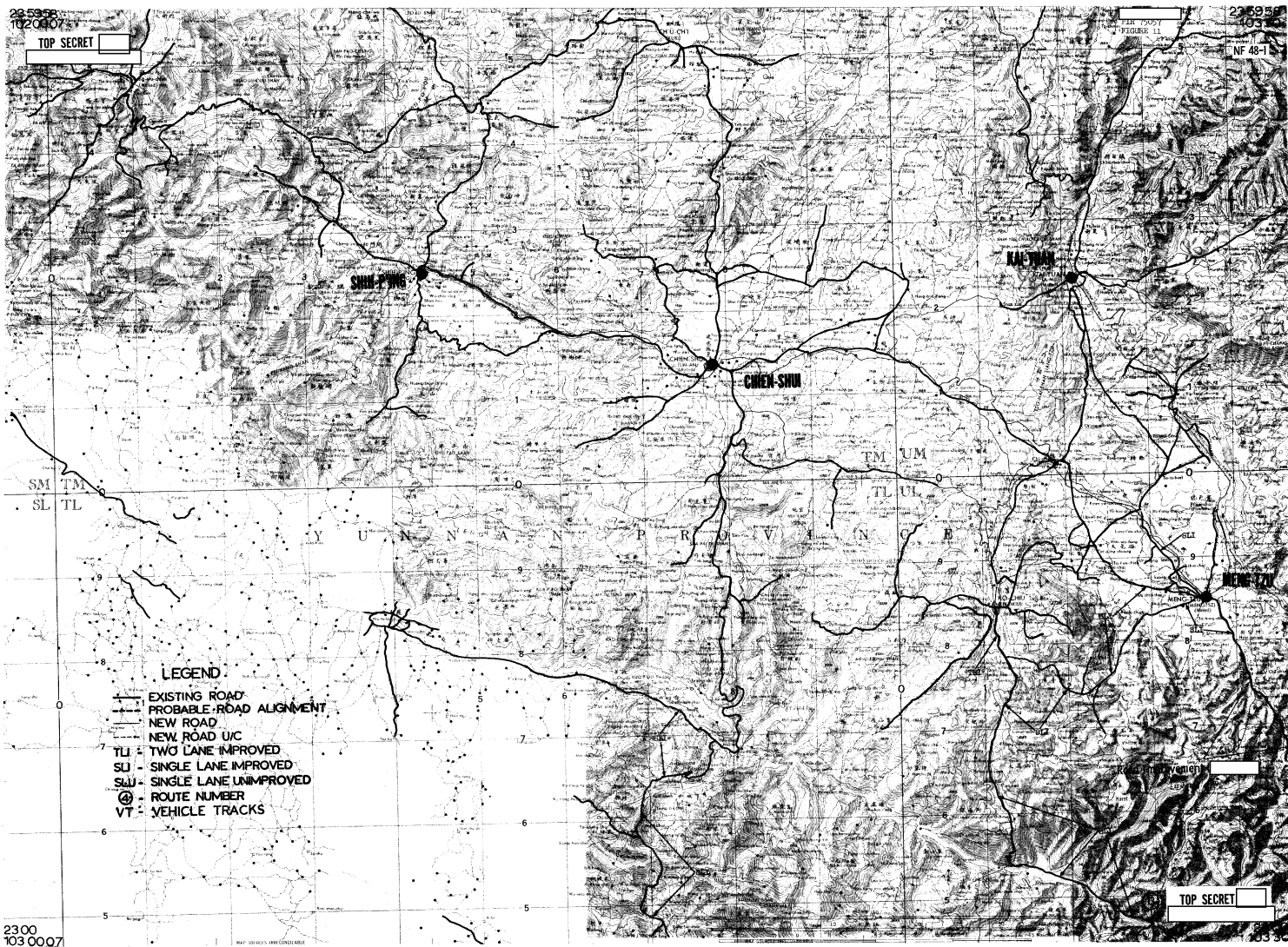
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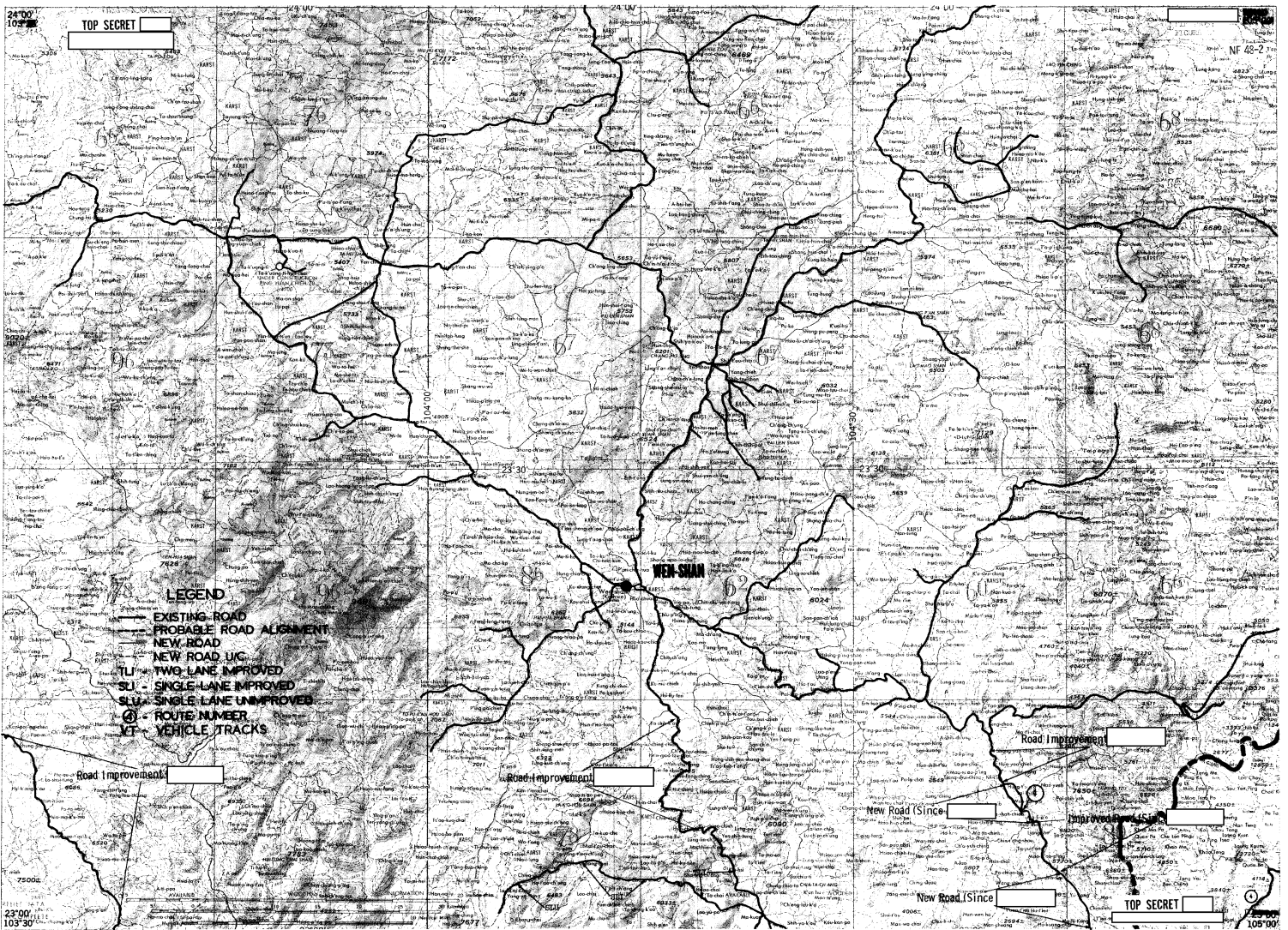


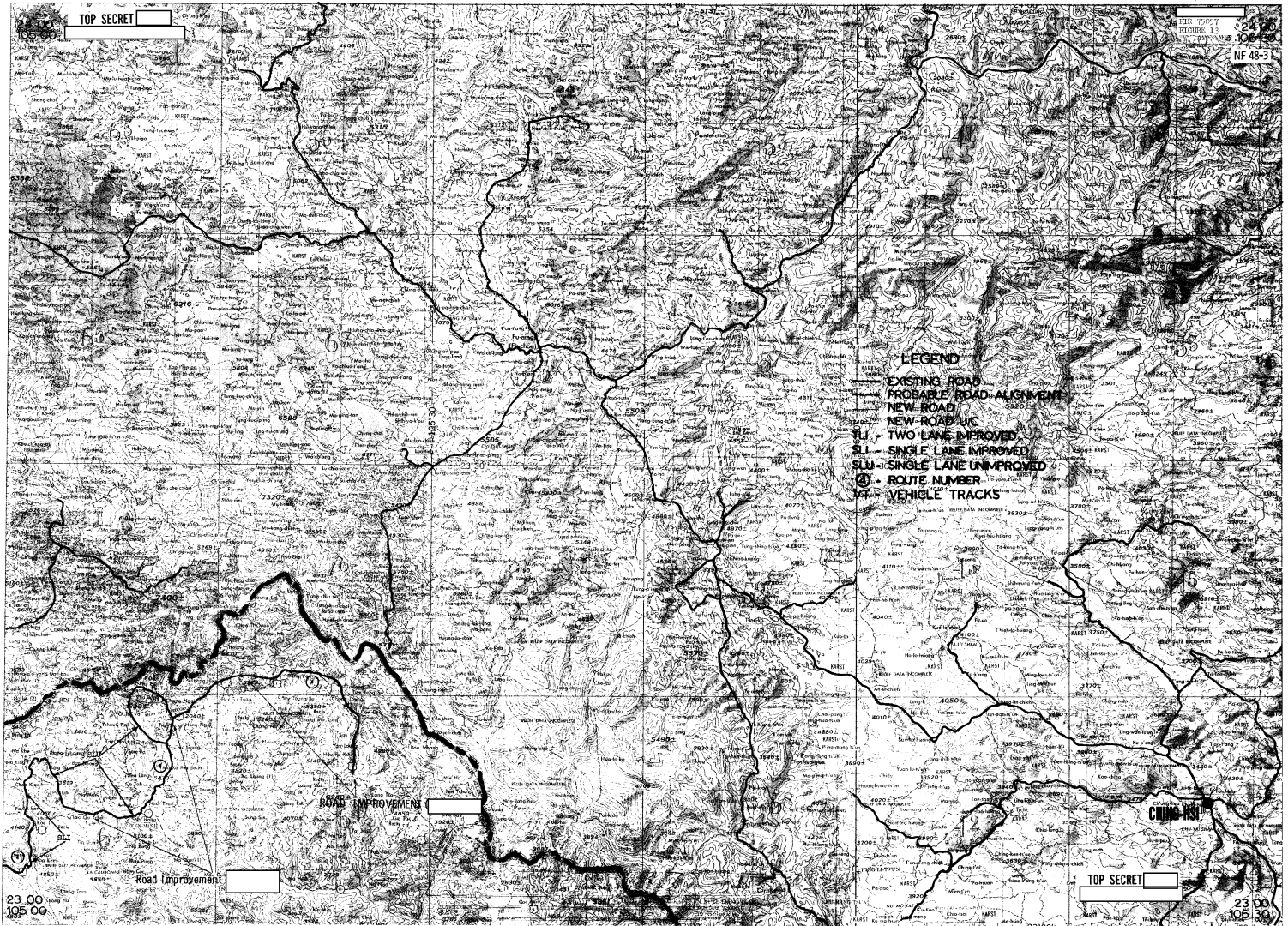


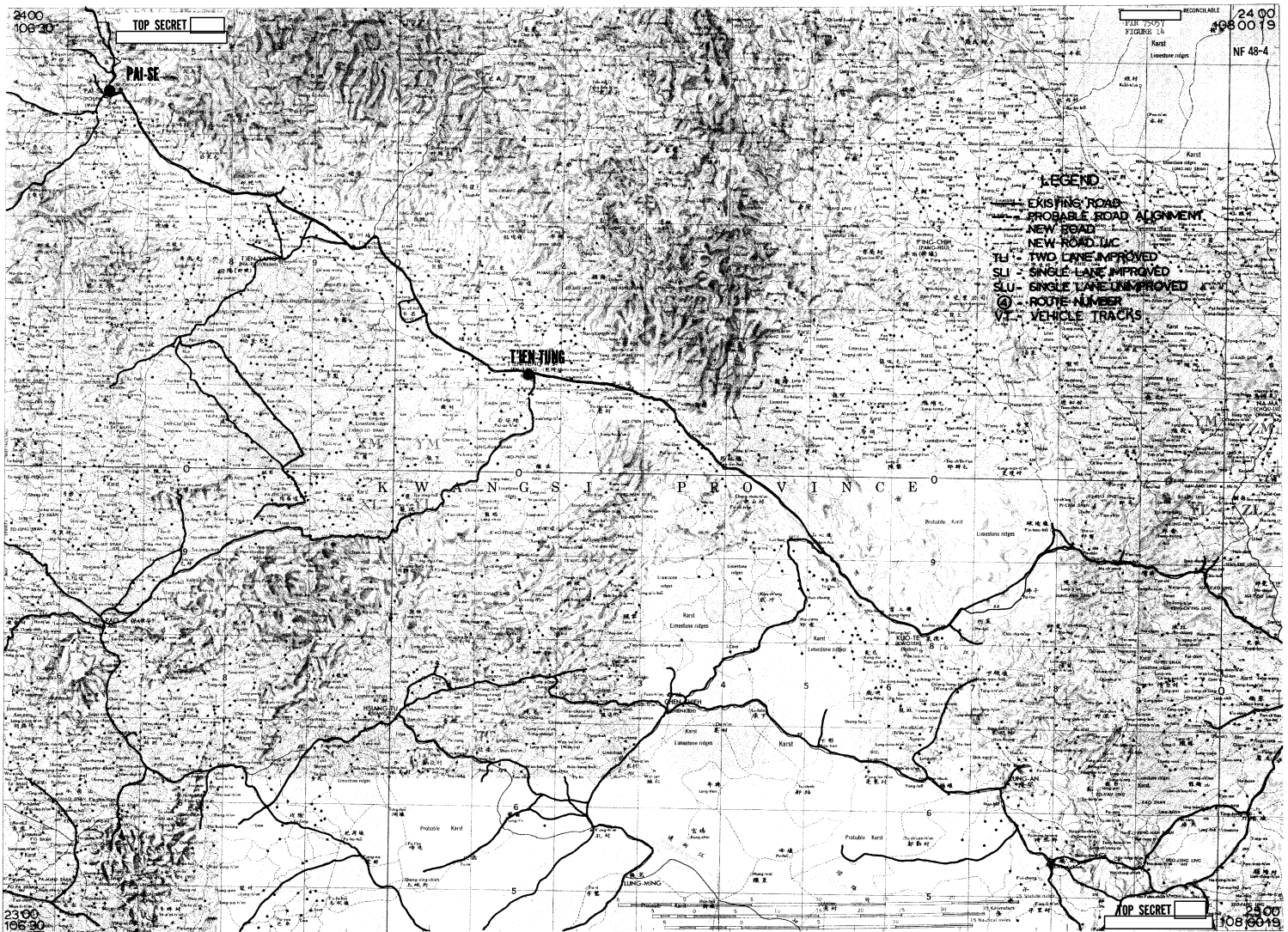


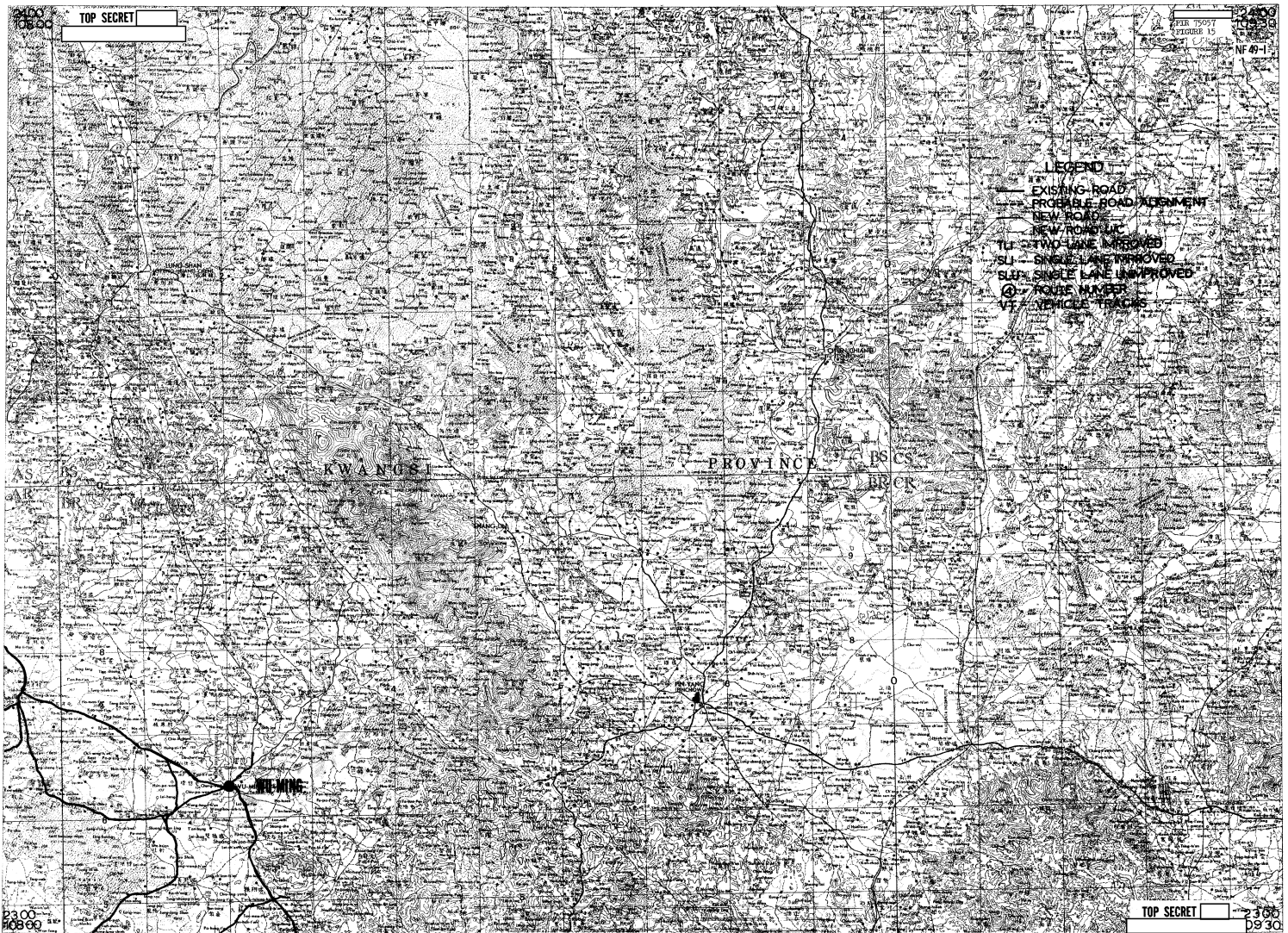


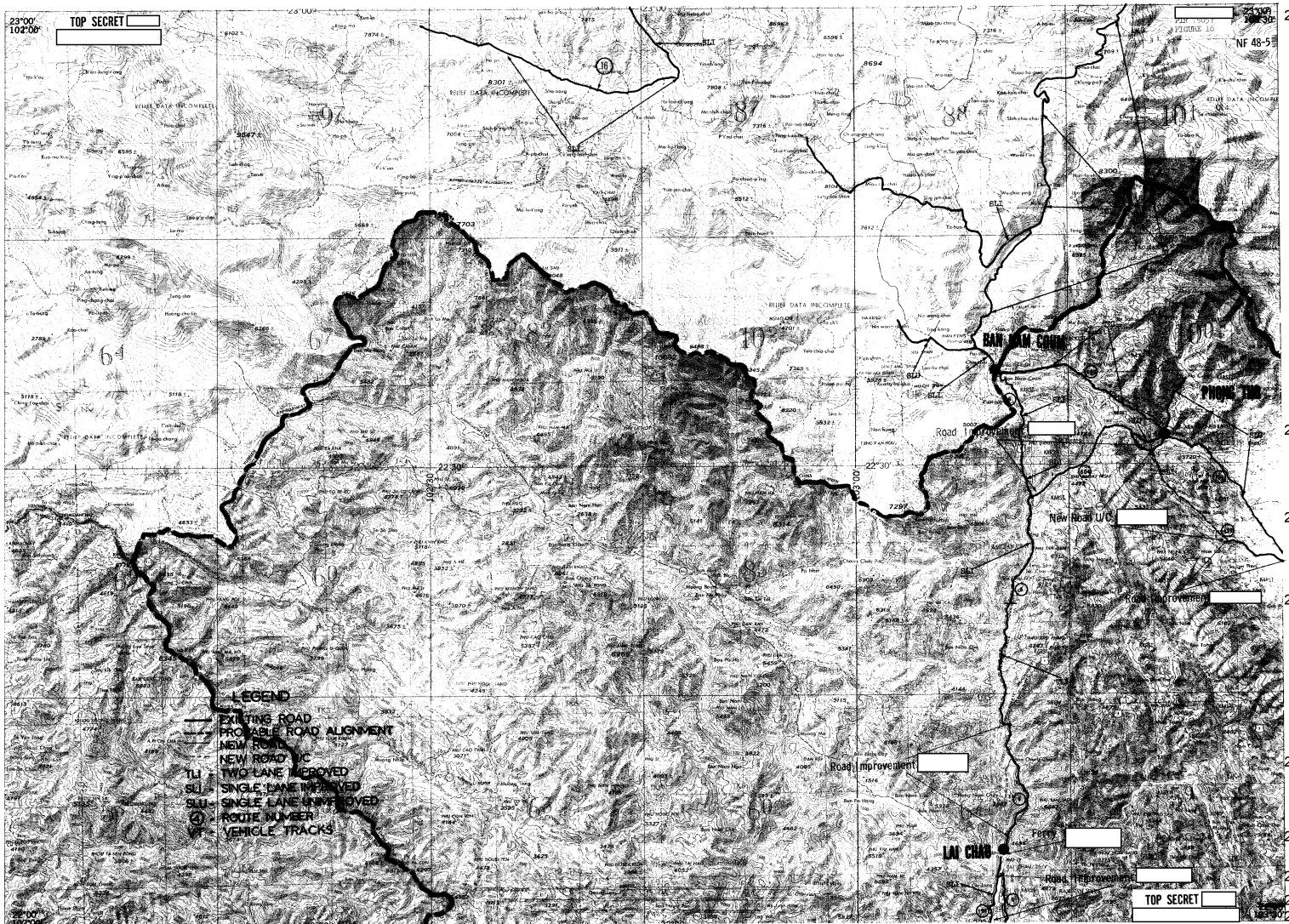






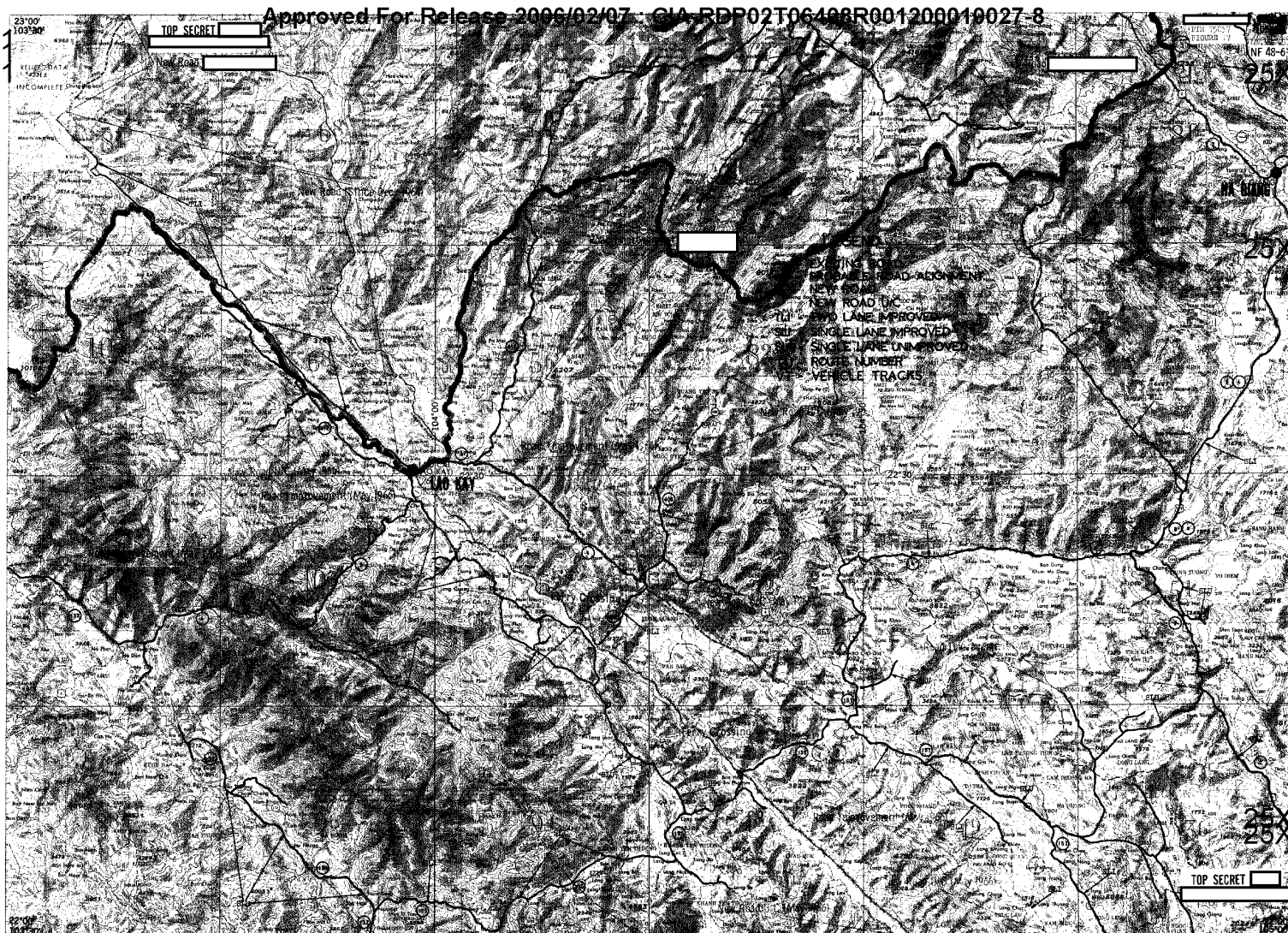






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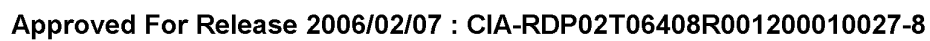
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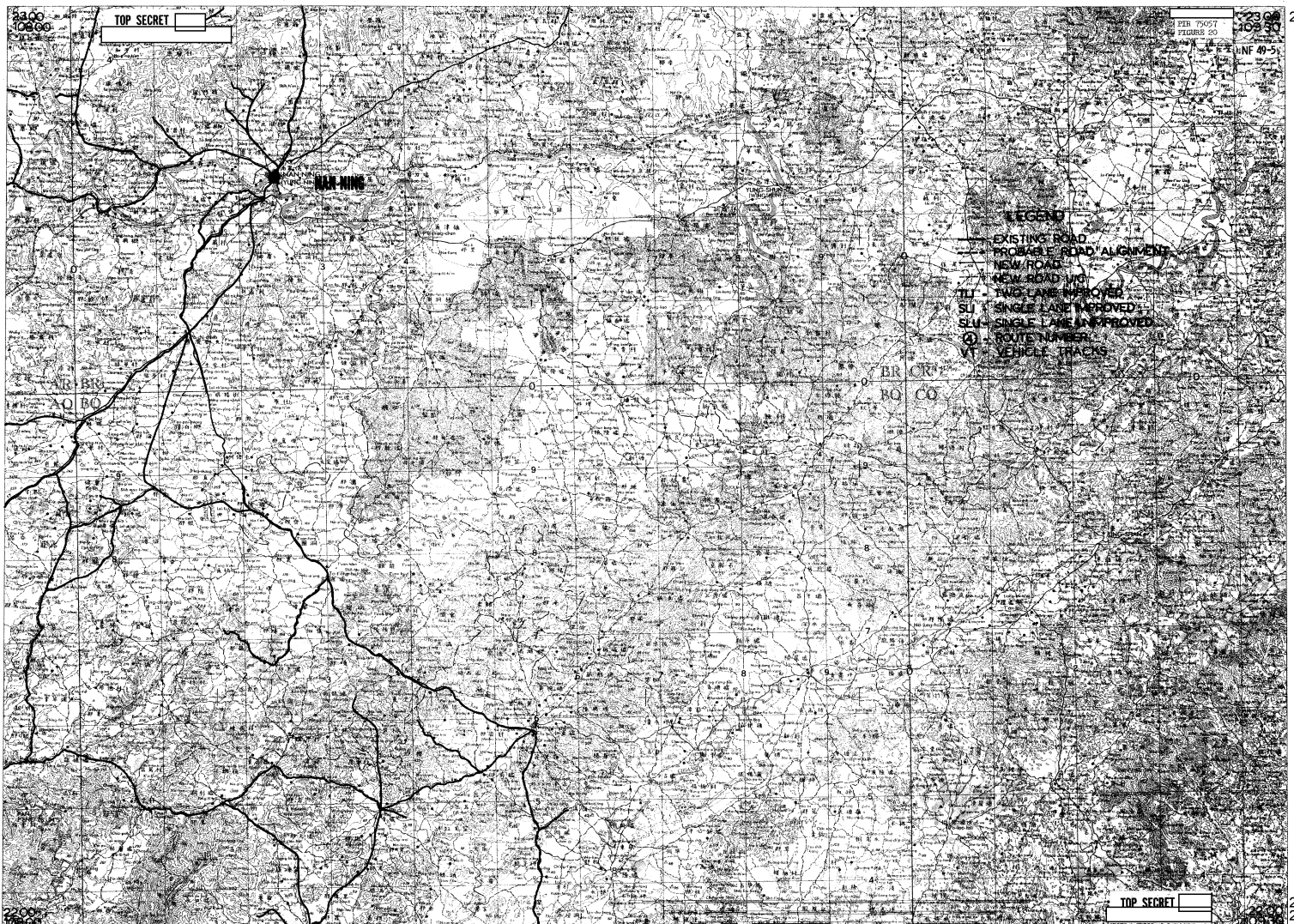
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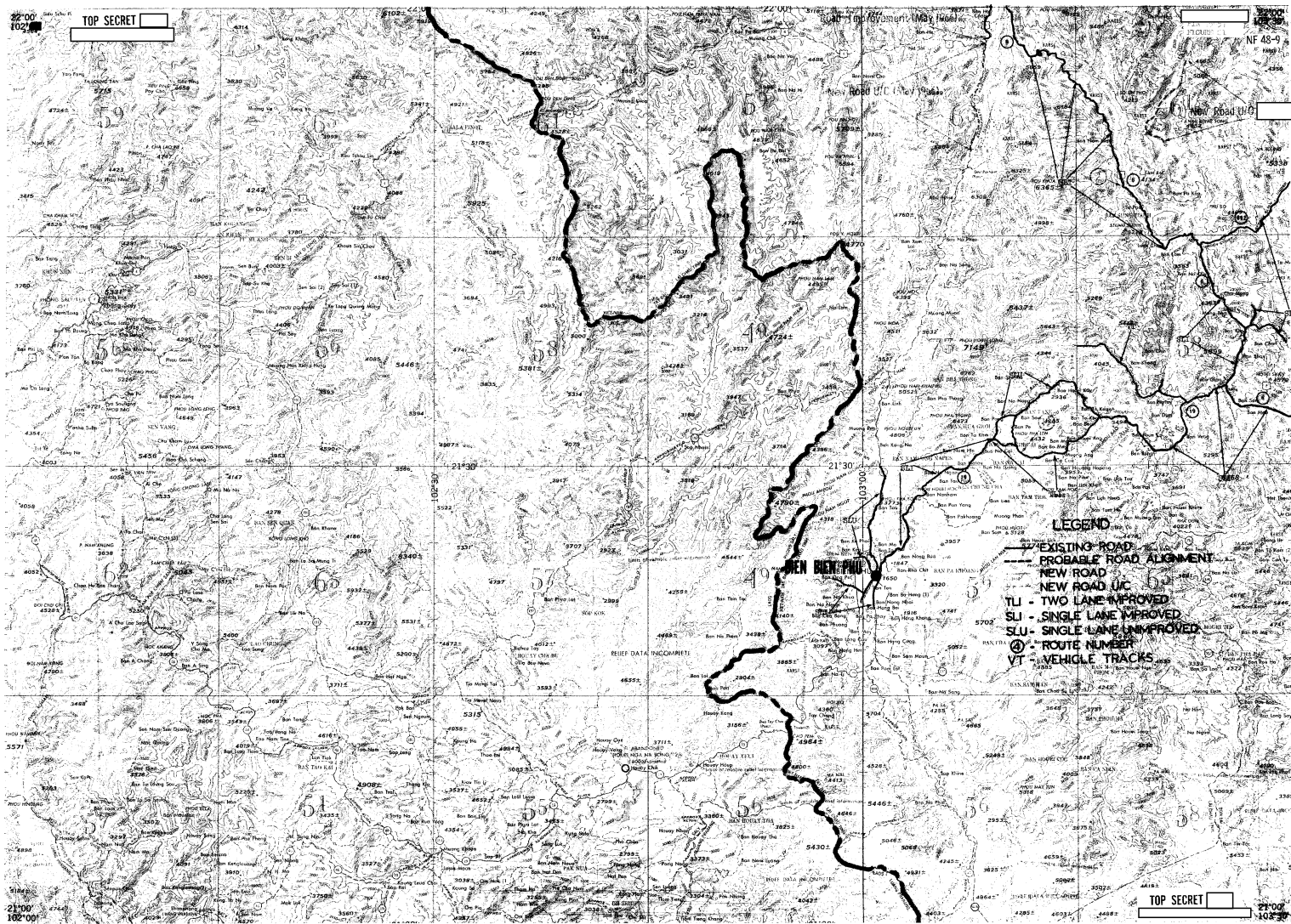
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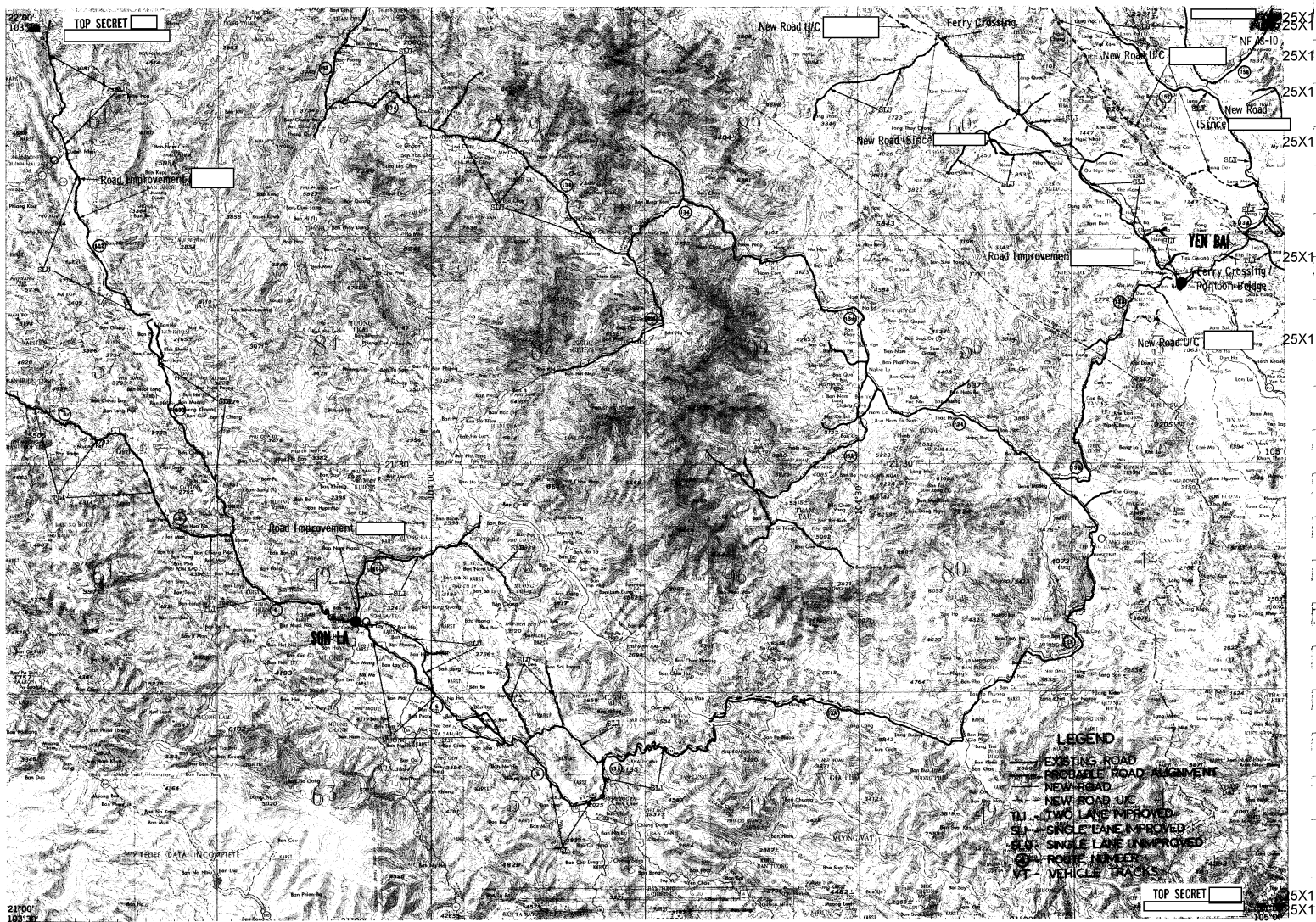
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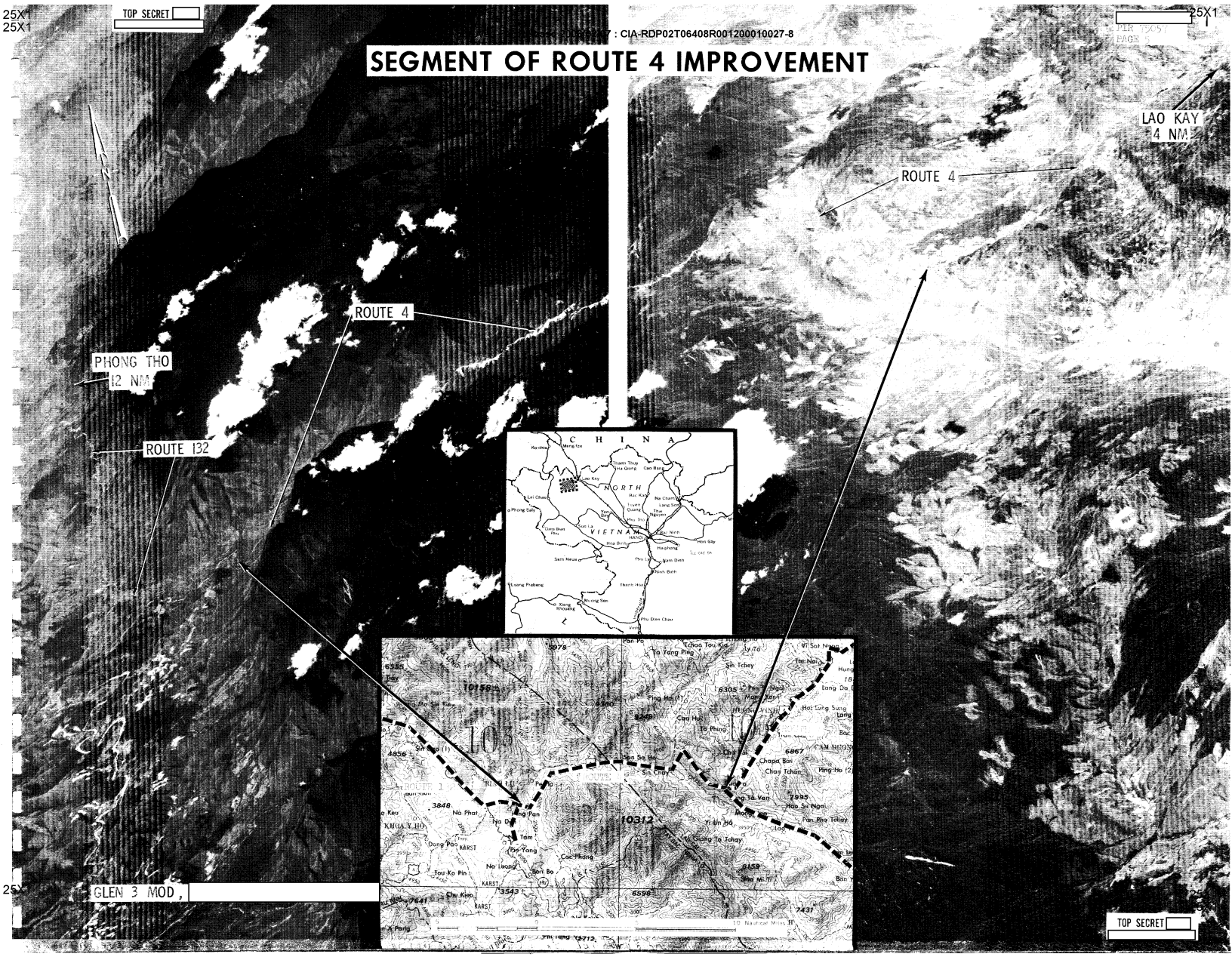
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SEGMENT OF ROUTE 4 IMPROVEMENT



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PIR 75057
PAGE 6

28

BAN PA HUONE HIGHWAY CABLE BRIDGE

21 48 N - 103 18 E

REMOVEABLE DECKING

CABLES

THIS AN EXAMPLE OF A TYPE OF BRIDGE RECONSTRUCTION BEING USED THROUGHOUT NORTH VIETNAM. THIS PARTICULAR BRIDGE IS LOCATED ON ROUTE 6 OVER THE NAM MEUK RIVER.

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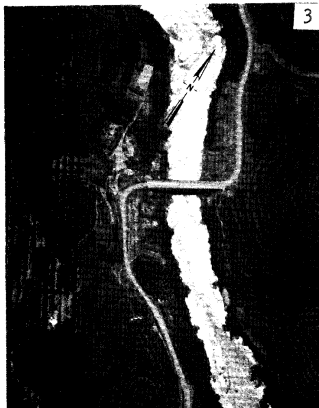
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PLR 75057
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NEW BRIDGE ALONG A NEWLY CONSTRUCTED ROUTE IN CHINA 0.5 NM NW OF NORTH VIETNAM BORDER AT 22 56N - 104 50E



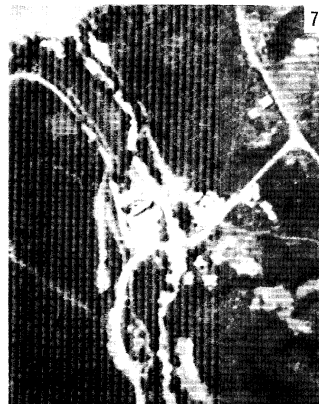
LARGE U/I BUILDINGS AT MA-LI-P'O, CHINA (23 07N - 104 42E) ALONG ROUTE CONSTRUCTION BETWEEN HA GIANG, NORTH VIETNAM AND 23 12N - 104 39E



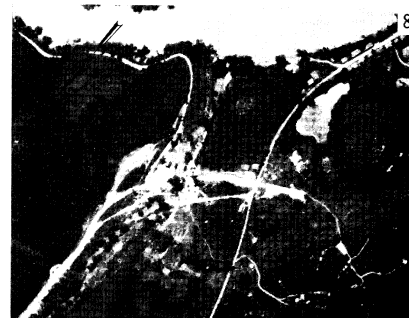
VEHICLE CONVOY AND PROBABLE STORAGE AREA IN CHINA 1 NM NW OF NORTH VIETNAM BORDER ALONG A NEWLY CONSTRUCTED ROUTE AT 22 57N - 104 50E



BULL DOZER PULLING GRADER ON NEWLY CONSTRUCTED ROUTE 160 AT 22 02N - 104 42E



OLD BRIDGE BEING DISMANTLED ON ROUTE 157 AT 22 14N - 104 29E



NEW BRIDGE PIERS AND ABUTMENTS IN PLACE ON OLD BRIDGE SITE AT 22 14N - 104 29E ON ROUTE 157.

SEE PHOTO 7

TOP SECRET

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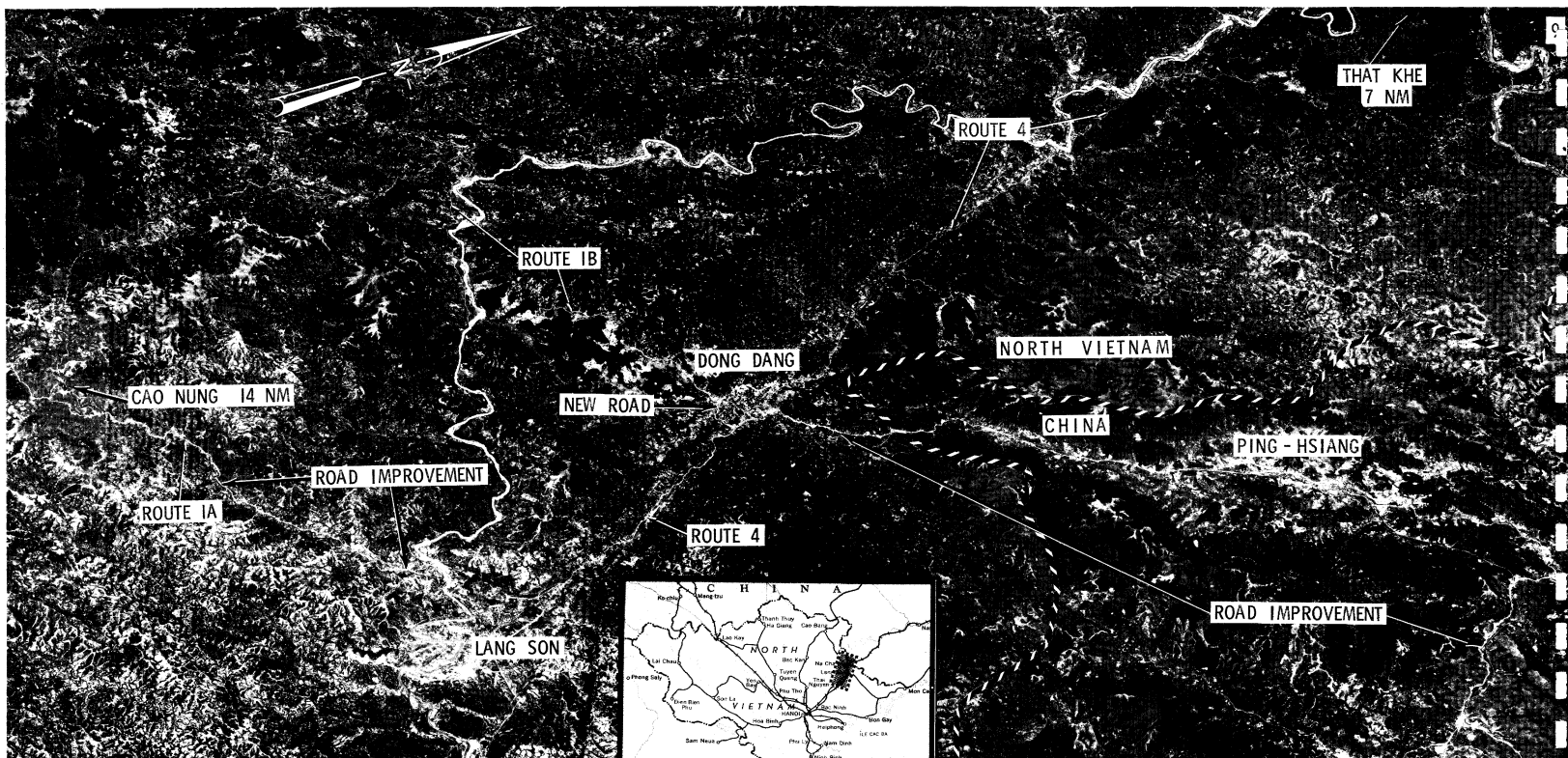
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PIR 75057
PAGE 8

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LANG SON , NORTH VIETNAM / PING-HSIANG , CHINA BORDER AREA



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TOP SECRET

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TOP SECRET

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PLR 15057
PAGE 9

POSSIBLE WORK CAMP

21 52 N - 106 47 E

POSSIBLE VEHICLE SHEDS AND
MAINTENANCE SHOPS

POSSIBLE STORAGE BUILDING

3 BUILDINGS UNDER CONSTRUCTION

POSSIBLE BARRACK BUILDINGS

ROUTE 403

3 NEWLY COMPLETED BUILDINGS

1.2 NM LANG SON

10A

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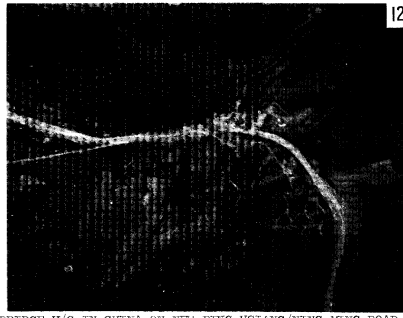
PIR 75057
PAGE 10

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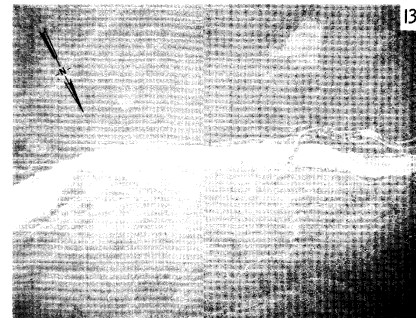


CONSTRUCTION EQUIPMENT IN CHINA ON PING-HSIANG, CHINA/
DONG DANG, NORTH VIETNAM ROAD AT 21 58N - 106 42E

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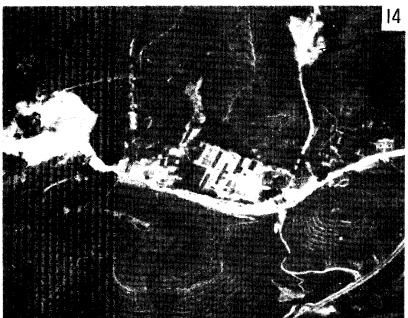


BRIDGE U/C IN CHINA ON NEW PING-HSIANG/NING-MING ROAD AT
22 06N - 106 54E



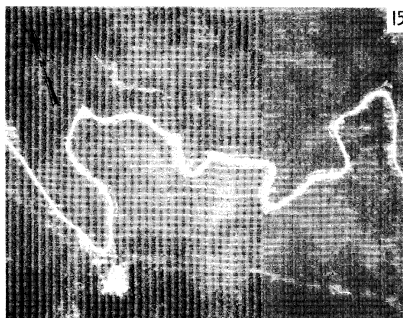
TWO BRIDGES IN CHINA OVER YUAN CHIANG AT 23 01N - 103 20E ON
HO-CHIU, CHINA/BAN NAM COOM, NORTH VIETNAM ROAD

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CONSTRUCTION WORK CAMP AND EQUIPMENT IN CHINA ON PING-HSIANG,
CHINA/DONG DANG, NORTH VIETNAM ROAD AT 21 59N - 106 42E

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TWO LANE IMPROVED ROAD SEGMENT THROUGH RUDDGED
TERRAIN ON ROUTE 19 IN NORTH VIETNAM AT 21 31N -
103 11E



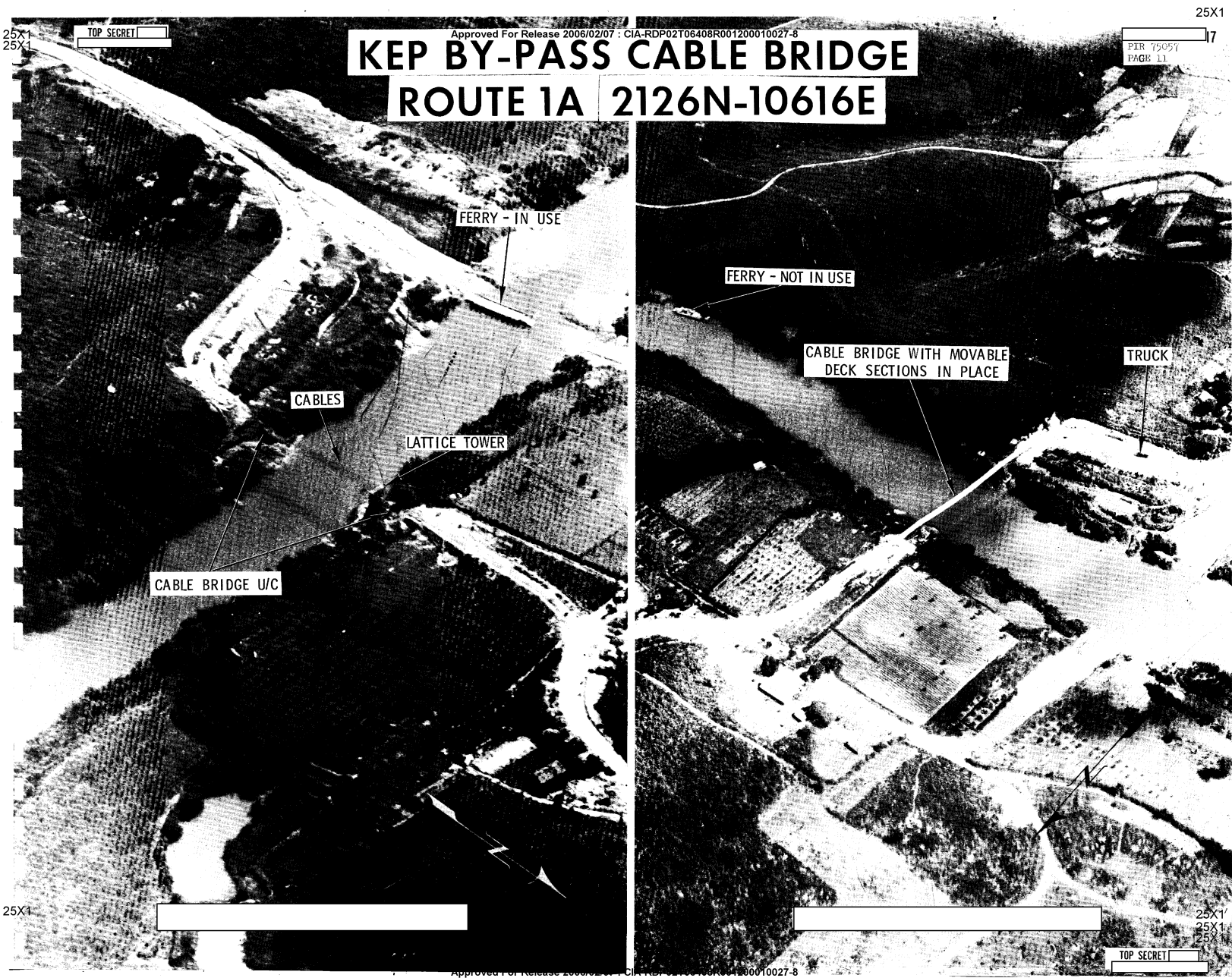
LANDSLIDES ON ROUTE IN CHINA AT 22 54N - 102 42E

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KEP BY-PASS CABLE BRIDGE

ROUTE 1A 2126N-10616E

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PIR 75057
PAGE 11

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TOP SECRET

TOP SECRET

Approved For Release 2006/02/07 : CIA-RDP02T06408R001200010027-8

PTIR 75057
PAGE 12

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NOTE: All satellite photography from [REDACTED] was utilized in this report.

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